

2011

## Scaremongering on Today Tonight: the truth about wireless radiation risks

Rodney J. Croft

*University of Wollongong*, [rcroft@uow.edu.au](mailto:rcroft@uow.edu.au)

Follow this and additional works at: <https://ro.uow.edu.au/sspapers>



Part of the [Education Commons](#), and the [Social and Behavioral Sciences Commons](#)

---

### Recommended Citation

Croft, Rodney J., "Scaremongering on Today Tonight: the truth about wireless radiation risks" (2011).

*Faculty of Social Sciences - Papers*. 1068.

<https://ro.uow.edu.au/sspapers/1068>

---

## Scaremongering on Today Tonight: the truth about wireless radiation risks

### Abstract

In a recent episode of Channel Seven's current affairs program Today Tonight, it was claimed that wireless devices in the home – such as cordless phones and routers – can cause a range of negative health effects, including: insomnia, depression, migraines and even cancer. These claims don't bear scrutiny.

### Keywords

risks, tonight, radiation, today, scaremongering, wireless, about, truth

### Disciplines

Education | Social and Behavioral Sciences

### Publication Details

Croft, R. (2011). Scaremongering on Today Tonight: the truth about wireless radiation risks. The Conversation, 19 May 1-2.

# THE CONVERSATION

19 May 2011, 3.06pm AEST

## Scaremongering on Today Tonight: the truth about wireless radiation risks

### AUTHOR



**Rodney Croft**

Professor of Health Physiology at University of Wollongong



Mobile phones raise body temperature, but only by a tiny margin. AMERICANVIRUS/Flickr

In a recent episode of Channel Seven's current affairs program Today Tonight, it was claimed that wireless devices in the home – such as cordless phones and routers – can cause a range of negative health effects, including: insomnia, depression, migraines and even cancer.

These claims don't bear scrutiny.

It's true that we're swamped with wireless devices. Mobile phones utilise wireless technology, as do baby monitors, Wi-Fi networks, TVs and radios.

One feature that has made such devices particularly useful, and almost inescapable, is that they enable communication via low-powered electromagnetic fields (EMFs) that travel through the air and do not require a permanent connection.

Mobile phones, for instance, are not hindered by the need to have cables connecting them, and can send and receive information from virtually anywhere.

The particular frequency range all such devices use is known as "radiofrequency" (RF), which is different from both the extremely low frequencies (ELFs) that mains power uses and ionising radiation (such as the radiation emitted through nuclear reactions and X-rays).

### Can RF harm people?

While ionising radiation contains enough energy to break certain chemical bonds in the body, RF has no such capability.

The only known way that RF can interact (and thus have an effect on) the body is through the heating caused by the movement of particles in your body (numerous other mechanisms have

been speculated upon, such as through demodulation of RF fields, but heating is the only mechanism that science has been able to verify).

For example, close to an active mobile phone, your body temperature might increase by 0.1 degrees Celsius. RF oscillations move charged particles in the body, resulting in friction and thus heat. This is how your microwave oven works.

But unlike microwave ovens, which can operate at more than 1000 watts, devices such as cordless phones or wireless routers use very low power levels (less than 0.25 watts) to ensure that adverse heating cannot occur.

For example, numerous expert bodies have evaluated the literature and concluded that as long as RF levels are below those specified in safety standards (in Australia the ARPANSA Radio Protection Standard), no harm occurs.

Such standards take as a starting point the lowest level known to cause “any” possible harm to humans or animals (approximately 100 watts/kg), reduce it by a factor of between 10 and 50, and only allow exposures below those levels.

Even then, many exposures (for example, cordless phone base stations and baby monitors) are hundreds of times lower than those standards. Research shows that, even in a home with numerous RF devices operating simultaneously, typical exposures are well below the ARPANSA Radio Protection Standard.

## **So why the scare stories?**

It's true many people report being sensitive to RF from devices as mobile phones and base stations, with estimates varying between countries and ranging from about 1.5% of the population in Sweden to 10% in Germany.

But a substantial body of science has so far failed to show any evidence that these complaints are related to RF.

In the laboratory (self-reported) hypersensitive participants have not been able to identify whether an RF field is on or off. Symptoms are only evoked by the participants' belief there is RF exposure, rather than by exposure itself.

Similarly, science has not been able to identify any harmful effects resulting from RF in study participants, regardless of age.

This is why expert committees are unanimous in their view that low-level RF is safe. Science, of course, can never be 100% certain of its conclusions, but a lot is now known. The result? We can be very confident that low-level RF is safe.

***Are you convinced by the argument that wireless devices are safe? Why/ why not?  
Leave your views below.***